

1. (Amended) A preservation solution for organs and tissues or parts thereof from humans and animals containing endothelium, comprising:

calcium ion,

at least one colloidosmotically active substance, and

nitroglycerin.

5. (Amended) A preservation solution for organs and tissues or parts thereof from humans and animals containing endothelium, comprising:

calcium ion,

nitroglycerin,

about 1-15% by weight low-molecular dextran having an average molecular weight of about 1,000 daltons,

about 3-8% by weight high-molecular dextran having an average molecular weight of 40,000 - 120,000 daltons as a colloidosmotically active substance,

about 0.1 - 2.6% glucose as a substrate,

buffer,

about 4-25 mM potassium ions,

about 1-16 mM magnesium ions,

about 50-150 mM sodium ions, and about 50-150 mM

chloride ions,

wherein the amounts are based on the final volume of the improved preservation solution.

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26. (Amended) The method of preserving organs and tissues or parts thereof from humans or animals according to claim 24, wherein said tissue is vena saphena magna or parts thereof.

31. (Amended) A method for maintaining the integrity of vascular endothelium, comprising:
placing said organs, tissues and parts thereof into the preservation solution according to claim 5.

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32. (Amended) A method for preserving vascular endothelium, comprising:
storing a contractile tissue in the preservation solution according to claim 5,
wherein nitroglycerin is present in an amount of about 10^{-4} - 10^{-7} M; and calcium ion is present in an amount of about 0.3 - 1.5 mM calcium, based on the final volume of preservation solution.

33. (Amended) A method for preserving organs and tissues or parts thereof from humans and animals, comprising:
flushing an organ or a tissue with the improved preservation solution according to claim 1,
immersing the organ or the tissue in the improved preservation solution, and
storing the improved preservation solution containing the organ or the tissue for 36 hours or more at 0.5-12°C.

34. (Amended) A method for preserving organs and tissues or parts thereof from humans and animals, comprising:

flushing an organ or a tissue with the improved preservation solution according to claim

5,

immersing the organ or the tissue in the improved preservation solution, and

storing the improved preservation solution containing the organ or the tissue for 36 hours

or more at 0.5-12°C.

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